Figure 1

Role of *HWP1* in health of mice orally colonized with *C. albicans.*

Mouse type	Health	I. HWP1 HETEROZYGOTE	hwp1/hwp1* homozygote	II. HWP1 REVERTANT	Wild type
			Number of mice given *C. albicans* strains of *HWP1* type		
Beige nude	ill	5	2	3	3
	not ill	2	9	1	1
	total	7	11	4	4

*P < 0.05 compared to the heterozygote, P = .058 compared to the revertant. P < .05 compared to combined heterozygote and revertant groups. Survival differences between other groups were not significant.

Mouse type	Health	HWP1 HETEROZYGOTE	hwp1/hwp1* homozygote	HWP1 REVERTANT	Wild type
Epsilon 26	ill	5	0	4	5
	Not ill	0	5	1	0
	total	5	5	5	5

Survival

*P < .01 compared to individually to the heterozygote and revertant. groups. Survival differences between other groups were not significant.
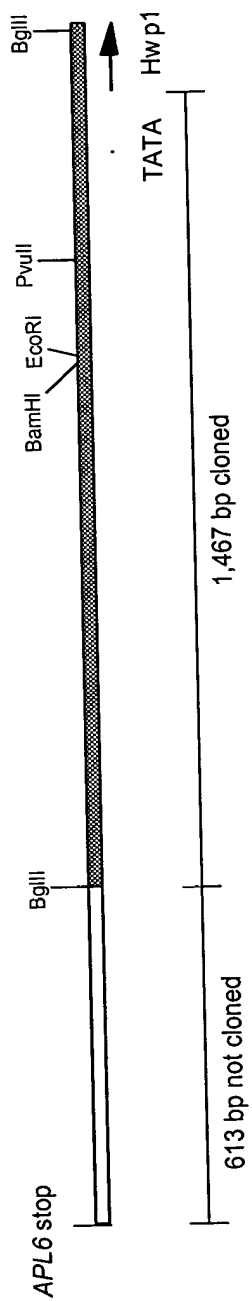
Figure 2

Figure 3

GGGGTET' GTGGGGXGG

1   GGATCTTTCTTTTTCATTTCCCTAAAACCGATCAAGAGAAGAAAGTGGAAATAAAGCTATGATGATAAATGTTGATTTTGTGTAATTC

86   AATCAACTAAGCACGTTTGACAGTTAAAAAGTACGTTGTTGTTGTCCTCGTCTCGTCTAATTTCTGTTGACGAGGATTAATAACA

171   AGAAATACACAGGAAACCCTCCAAAAAAAAAATTTTGGACCTTACACGCACATAAATTGCGGATAAACTTGCCATAATAAAAACTCT

256   TTGAAACATACGATATGTTATTCTTTTCATAACTGGAATATTTGCTTTTTTTTAACATTATGAACAATTGAAAAAAAAAGGAA

341   ATGAAAAGGTAAGAGTTGCCTAACCATTGAAAAATAATAGGCTAAGGTTTTCCTGATGCGTTAACTAAAAAGGAAATAACAAAA
426   GTTATTAGCCGATAACCTGCGTAAGGTGTCAACAAAATATATTTTGCACGTTAGCTCTATAGAAAATATACAAACTAAATCCTTAA

511   GGAATTTCCTCTATATATAATAGGAAATCCCCTCTCACAGTGAACTGAATTATCCATCTGAATTATCAGTCCACTAATTCCATCAA

596   TAAAATAGATTAGTGTATTGTTCTTCAGTACAATTACTACCATTATGCAATGCTAGCTTATTGTTCATAATTAGCCATGTTGC
681   ACACCCTAATTCGAACATTAACTGTATCCATATTTTTCTGTCCTTCTTGTTTTTTCTAACAAAAATGTTCCAGAATTTTTTA

766   AAAAATATTTGAAAAAACACATAACACTTTGAGTATGATAATATCAACTATTGACTTGTTTGAAAGTAAAGAATCAAATTTTTT

851   TCTAACTCGACTAATGCACTTACATCAACTGGATGTTATTTGCATCTACTACTATAAGCTCAAACAAATTATCTTTCAAAAATG

                                           BamHI   EcoRI
936   TTATAATTAACAAGTCATCTATAATTCTTTGGATCCAAAAAACAAGGAATTCGGAAATTCTGACGATAAATGTCGACTCACAATTC
1021   ATTGTAAAAAGGGGAGAGTTTTGGTAGGCTCATAATGCTTATAATGTACCTGTAAAGTAATCTAAAACAAACAACCTTTCTAA
                                                     PvuII

1106   AACCTATAATAATAACCCTAATGGCTCACAACCGGGATAAGTAGTTAGTTAGCCCCAGCTGTTTTTTTTGCCTTATTTTTATGACTA

1191   CATTTTGTTCACTTTTTGTTGCGACTTTAATACCGTTTTGCAACTTCTCTTTGTATCCGCTGTATCCGCCTTTTTTAACATAG

                                                                            TATA box
1276   CAACTCTTGTAAAGTCCCTTCTTTTTCCCCACTATTTATCATTCTTGAAATCTTGAAATGTAATCAGAATAGTTTTCAAAAAC$TATAAAT$

1361   AACGGTCAAAAATAACCGGCTATTTTCAATTCCATTCAACTTGTTTTCTCAACAATATCAAACACAGGAATCTCCTATAGTC

1446   ACTCGCTTTAGTTTCGTCAATATG [SEQ ID. NO: 1]

Figure 4

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       *   *        ◆              *  *
GAT99  CTNCGTKTTPLWRRNPQGQPLCNACGLFLKLHGVVRPLSLKTDVIKKRQR  [SEQ ID. NO: 2]
        ::::  :.:.:::.:::::::::::::::::::::::::::::::::::.:
NIT2   CTNCFTQTTPLWRRNPDGQPLCNACGLFLKLHGVVRPLSLKTDVIKKRNR  [SEQ ID. NO: 3]
```

Figure 5

TAATTCTAATAACTGATACTAAGTTTTGTTCCTTTTTTTGGGATTTCTTTTTTTTCTAATTTT
GATTGTTTTTCAATTTTGGGTTTTCAATATTATTGACAAGAGTCATTTTATTGAATATTTGT
TTTGTTTACTACATTAAAGGTGATAGGTACTTTTAGTTTTTAAAAATTGTTTTGTTCAAATT
GTTTATCTTTTTCTTCTTCTTCTACTTGCTTTGTTTTCTGTTTTCGGTTCATAGTTGATAGCTT
TT**AATAAA**TACCCCTTTTTTTTTACAATAGTTAGTTCTAAGCTTATTCAGTGGTTTAATTGG
TAGAAAATGTGAGCTCTGTAGCTTATGGTATCTTCTATAGCAATATATTTAACTTGGACAT
AGTTCATTATTCTGGACGCATGAAGGTGCAAAGTCAAAAAGTGAGAATATGCAAAGAGGT
AATTAGATTTCTGTCCTATTAATTAACAAAAAATC**TATATATA**GACTGCAATATTTAATAC
CCCCCAAGTTTGATTCTATAATCCTTCGATTTCTATAAAGATATAACCATGAATCATGAGT
AAATACCAAATAGATTAATAGTAGAATCTGTATGGTCGTGTAAAGCTGTTCATTAAAAAC
TATTGATTTAAATTTCCCCTTCCTCGTAATCTCTTTTTTTTTGGGGGGGAGGATCAGCCGCA
ATAAAAGATTGAAAATTATTAAACAAAACAACAAAACGGGAAACCGGAAACCTGAGAAA
AAGAAAGAAAGAAGGAAAACTTTTGTTAAGATATTAAATTTTACGAAGCAAATTTAAAAT
CCATACTTAACAATTATTGTTATTACGTACTTCAACAGGGAAAGAAAAAGTTAAGATTTTA
AATCTCTTTATTCCTTTCTTTCTTTTATTATTATTTACCCTTAATATAA*ATGTCAAAACAAGA*
TCCACCTCCAGATTATACAAATAGGACATCAGATAATTATAACCCAGATACAACTGATAATCA
TAATATTCCTCCACCTTTCACTACTCATCCTATAGAGGTTCATCCACCACCATTCTCCTCTTC
TACTTCACCTAATATCCGTGTGCCAGCATATTTTCAAAATCAAACTACTTCAGGATGGACAAT
AGTAATAAATAATCGATTTTGGACTGATGGATATTTGTTTCCGAAGATGCATCTAA
TAAGTTTGATGCCTTCAAAAAAAGTAAAAATCCCGAAATAATACAATTACAAGAACAAGGTA
TTGGAGTACCGTTATTTAAAGCTGTCACGTCATATATTCCCTTAGCAACAAAATTTATAACGT
TTAGAAGATATGTCCCTACTAATTTACATCCATTTGATATTGATAAAGATTATTATGATTATT
GTATTGTTAAACGGAAATTACACGTTGGATATGATAGTTATATATTTGAATTTACTCCTGATC
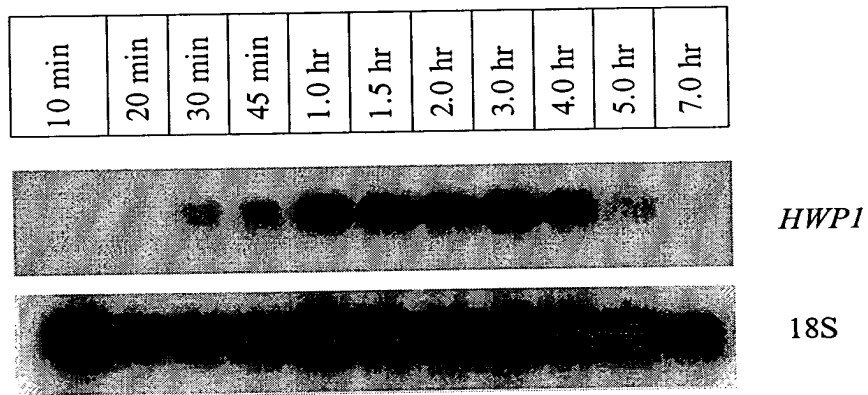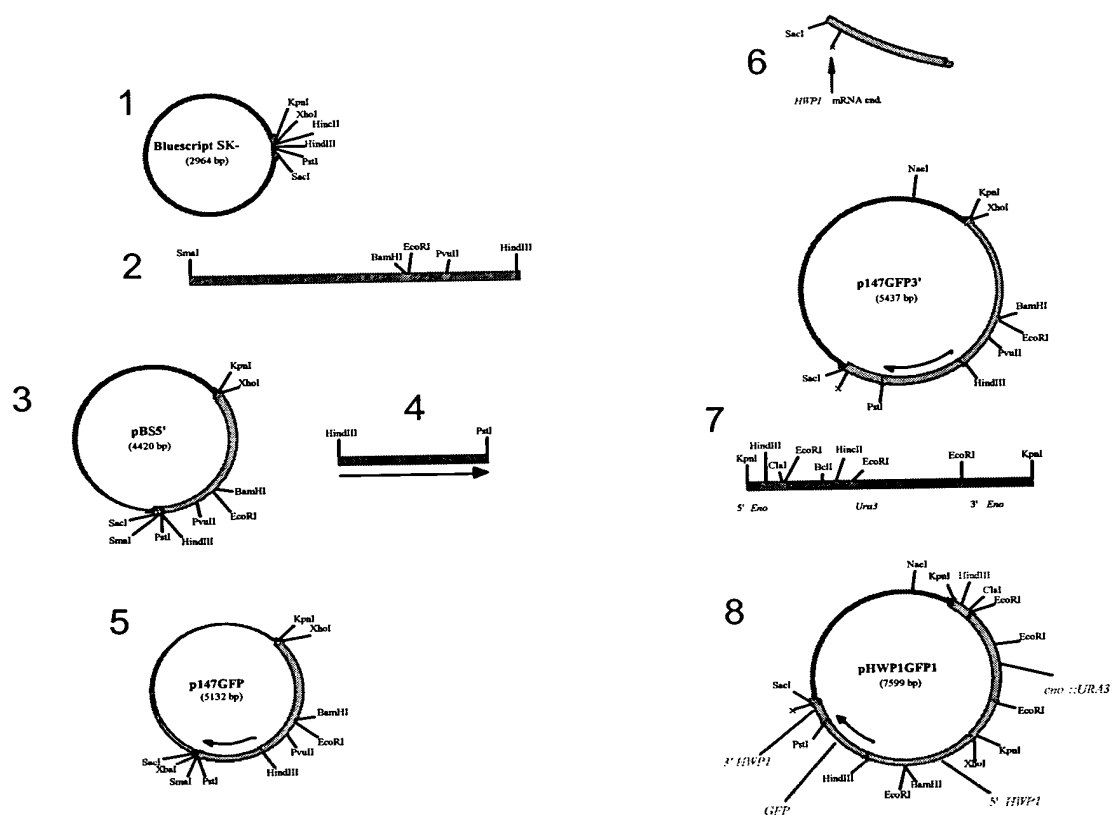*GAGAATTCG**GATCC* [SEQ ID. NO: 4]

Figure 6

| 10 min | 20 min | 30 min | 45 min | 1.0 hr | 1.5 hr | 2.0 hr | 3.0 hr | 4.0 hr | 5.0 hr | 7.0 hr |

HWP1

18S

Figure 7

Figure 8

Integration of pHWP1GFP1 into the chromosome
of *C.albicans* at the enolase locus.

Integration of construct at the enolase locus.

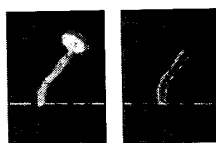Figure 9

Lanes 1 2 3 4   5 6 7 8

Stds C2 C3 CAI4   Stds C2 C3 CAI4

ENO probe   GFP probe

Figure 10

M199 @ 37°   YNB @ 27°   Lee's pH 4.5 @ 37°

A   B   C   D   E   F
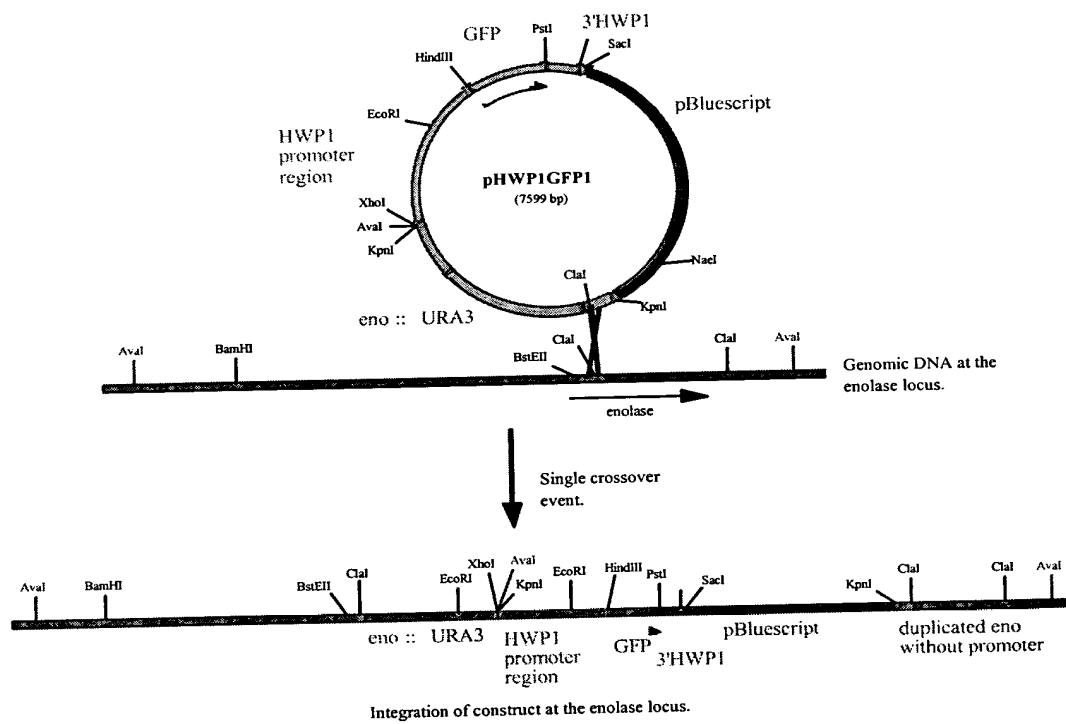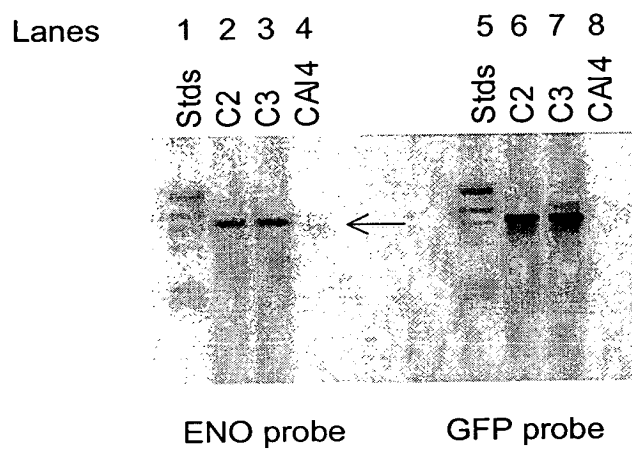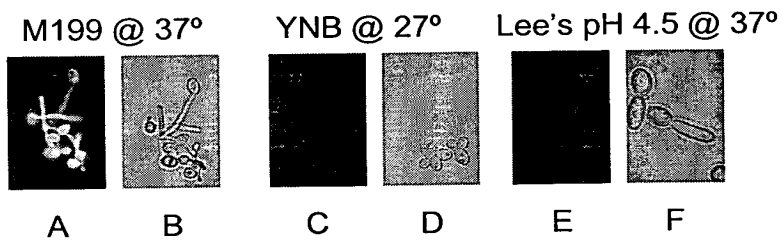
Figure 11

A   B
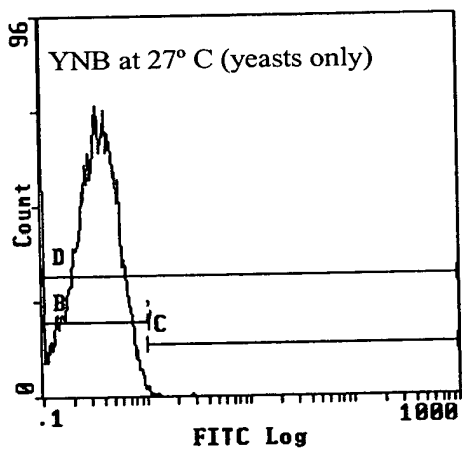
Figure 12

Figure 13A   Figure 13B
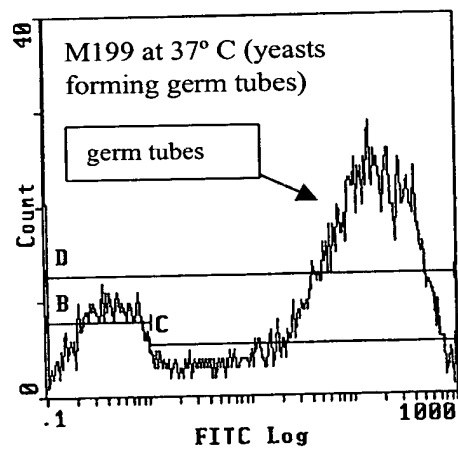
Figure 14A
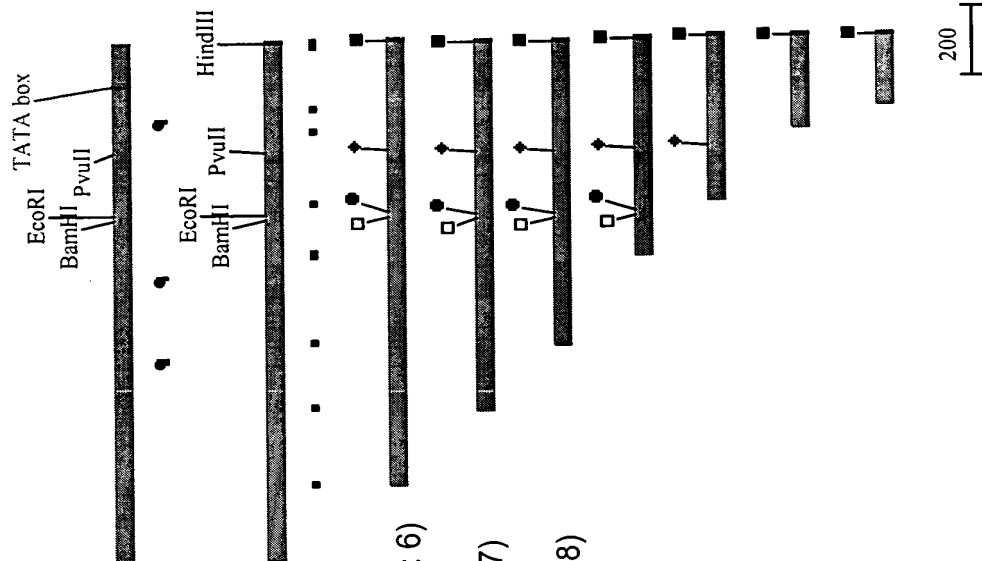
5' GG **CTCGAG** GGA CCT TAC ACG CAC ATA AAT TGC Δ205 bp (SEQ ID. NO: 5)

5' GG **CTCGAG** CAA AAG TTA TTA GCG ATA ACC TGC Δ421 bp (SEQ ID. NO: 6)

5' GG **CTCGAG** GTG TAT TGT TCT CTT CAG TAC ATT Δ608 bp (SEQ ID. NO: 7)

5' GG **CTCGAG** CTC GAC TAA TCG ACT TTA CAT CAA Δ856 bp (SEQ ID. NO: 8)

5' GG **CTCGAG** ATG TCG ACT CAC AAT TCA TTG Δ1004 bp (SEQ ID. NO: 9)

5' GG **CTCGAG** GTT GCG ACT TTA ATA CCG TT Δ1209 bp (SEQ ID. NO: 10)

5' GG **CTCGAG** CAT AGC AAC TCT TGT AAA GTC Δ1271 bp (SEQ ID. NO: 11)

Figure 14B

Identification of virulence and morphogenesis factors in *C. albicans*
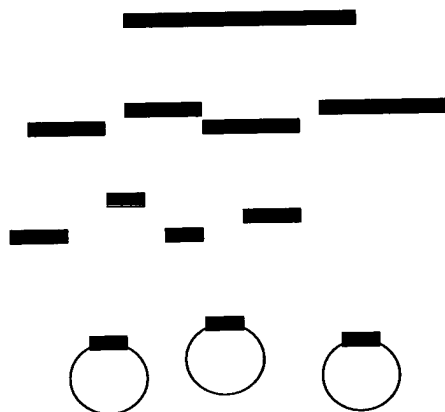
I. ## STEP 1: CREATE A GENOMIC LIBRARY FOR MICROARRAY CONSTRUCTION

Prepare *C. albicans*
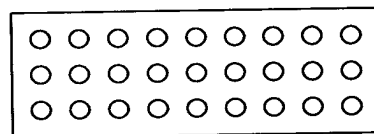genomic DNA.

↓

Sau 3A partial digest.

↓

Size selection of 0.5
to 2.0 kb fragments.

↓

Clone genomic
fragments into plasmid
vector (pBluescript).

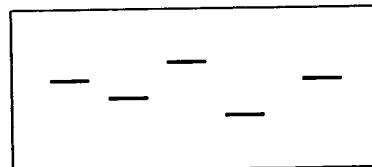A. STEP 2: Create Microarray

Transfer transformants to
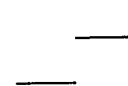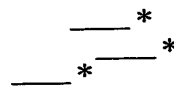96-well plates.

↓

Perform colony PCR using
universal primers.

↓

**Check PCR rxns
on gels and rearray
positives on 96-well**

↓

Spot productive rxns on
membranes.

↓

Prepare and label cDNA from mRNA of
strains **with and without DNABPG**
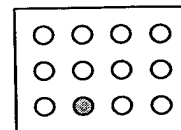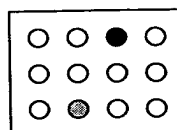
↓

Hybridize labeled cDNA to
duplicate membranes.

↓

Go back to 96-well plates and
sequence the clones of
interest.

Labeled cDNA from strain;
with DNABPG   dnabpg null mutant

_____ *
_____ *_____ *   _____   Labeled
_____ *   _____   cDNA.

wild type   mutant

⟶ **In vivo analysis of genes.**

Figure 15